

**RTECS Number** AL7700000  
**Toxicant Name** Acetonitrile  
**Synonyms** Methylcyanid (Czech); Acetonitrile (ACGIH:OSHA); USAF EK-488; RCRA waste number U003; NCI-C60822; Acetonitril (German, Dutch); Cyanomethane; Cyanure de methyl (French); Ethanenitrile; Ethyl nitrile; Methanecarbonitrile; Methane, cyano-  
**CAS Number** 75-05-8  
**Formula** C2H3N  
**Weight** 41.08  
**Wiswesser Line** NC1  
**Compound Descriptor** Tumorigen; Mutagen; Reproductive Effector; Human Data; Primary Irritant  
**Irritation** Skin:Rabbit 500 mg open Mild Reaction  
 Union Carbide Data Sheet. (Union Carbide Corp., 39 Old Ridgebury Rd., Danbury, CT 06817) 3/18/1965  
 Eyes:Rabbit 100 uL/24H Moderate Reaction  
 International Journal of Toxicology. (Taylor & Francis, 47 Runway Rd., Suite g, Levittown, PA 19057) V.16- 1997- 19, 363,2000  
**Mutagenicity** Sex Chromosome Loss and Nondisjunction:Drosophila melanogaster-Inhalation 131 ppm  
 Mutation Research. (Elsevier Science Pub. B.V., POB 211, 1000 AE Amsterdam, Netherlands) V.1- 1964- 259,165,1991  
 Sex Chromosome Loss and Nondisjunction:Saccharomyces cerevisiae 47600 ppm  
 Mutation Research. (Elsevier Science Pub. B.V., POB 211, 1000 AE Amsterdam, Netherlands) V.1- 1964- 149,339,1985  
 Sister Chromatid Exchange:Hamster:Ovary 5 gm/L  
 Environmental and Molecular Mutagenesis. (Alan R. Liss, Inc., 41 E. 11th St., New York, NY 10003) V.10- 1987- 10(Suppl 10),1,1987  
**Reproductive Effects** Effects on Fertility(Post-implantation mortality)  
 Inhalation:Rat TLo 1800 ppm/6H (6-20D preg)  
 Fundamental and Applied Toxicology. (Academic Press, Inc., 1 E. First St., Duluth, MN 55802) V.1-40, 1981-97. For publisher information, see TOSCF2 20,365,1993  
 Maternal Effects(Other effects); Effects on Embryo or Fetus( Fetal death); Specific Developmental Abnormalities( Musculoskeletal system)  
 Oral:Rabbit TDLo 390 mg/kg (6-18D preg)  
 National Technical Information Service. (Springfield, VA 22161) Formerly U.S. Clearinghouse for Scientific & Technical Information. OTS0555575  
 Specific Developmental Abnormalities(Musculoskeletal system)  
 Oral:Hamster TDLo 300 mg/kg (8D preg)  
 Teratology, The International Journal of Abnormal Development. (Alan R. Liss, Inc., 41 E. 11th St., New York, NY 10003) V.1- 1968- 27,313,1983  
 Effects on Fertility(Post-implantation mortality)  
 Oral:Hamster TDLo 400 mg/kg (8D preg)  
 Teratology, The International Journal of Abnormal Development. (Alan R. Liss, Inc., 41 E. 11th St., New York, NY 10003) V.1- 1968- 27,313,1983  
 Effects on Fertility(Post-Implantation mortality); Specific Developmental Abnormalities(Central nervous system)  
 Inhalation:Hamster TLo 5000 ppm/1H (8D preg)

**Tumorigenicity**

**Acute Toxicity**

Teratology, The International Journal of Abnormal Development. (Alan R. Liss, Inc., 41 E. 11th St., New York, NY 10003) V.1- 1968- 27,313,1983  
 Effects on Embryo or Fetus(Fetotoxicity); Specific Developmental Abnormalities(Musculoskeletal system)  
 Inhalation:Hamster TCLo 8000 ppm/1H (8D preg)  
 Teratology, The International Journal of Abnormal Development. (Alan R. Liss, Inc., 41 E. 11th St., New York, NY 10003) V.1- 1968- 27,313,1983  
 Equivocal; Liver  
 Inhalation:Rat TCLo 400 ppm/6H/2Y-I  
 National Toxicology Program Technical Report Series. (Research Triangle Park, NC 27709) No.206- NTP-TR-447, 1998  
 Behavioral(Coma); Cardiac(Pulse rate increase without fall in BP); Lungs, Thorax, or Respiration(Respiratory depression)  
 Oral:Woman TDLo 500 mg/kg  
 Postgraduate Medical Journal. (Blackwell Scientific Pub. Ltd., POB 88, Oxford, UK) V.1- 1925- 73,299,1997  
 Behavioral(Hallucinations, distorted perceptions); Behavioral(Convulsions or effect on seizure threshold); Gastrointestinal(Nausea or vomiting)  
 Oral:Child TDLo 800 mg/kg  
 American Journal of Emergency Medicine. (WB Saunders, Philadelphia, PA) V.1- 1983- 9,268,1991  
 Behavioral(Convulsions or effect on seizure threshold); Gastrointestinal(Nausea or vomiting); Nutritional and Gross Metabolic(Metabolic acidosis)  
 Oral:Man TDLo 571 mg/kg  
 Acta Pharmacologica et Toxicologica, Supplementum. (Munksgaard International Pub., POB 2148, DK-1016 Copenhagen K, Denmark) No.1- 1947- 41,340,1977  
 Behavioral(Excitement)  
 Oral:Man TDLo 64 mg/kg  
 Journal of Toxicology, Clinical Toxicology. (Marcel Dekker, 270 Madison Ave., New York, NY 10016) V.19- 1982- 29, 447,1991  
 Lungs, Thorax, or Respiration(Other changes)  
 Inhalation:Human TCLo 160 ppm/4H  
 Toxicology of Drugs and Chemicals, Delchmann, W.B., New York, Academic Press, Inc., 1969 -,65,1969  
 Oral:Rat LD50 2460 mg/kg  
 Union Carbide Data Sheet. (Union Carbide Corp., 39 Old Ridgebury Rd., Danbury, CT 06817) 3/18/1965  
 Behavioral(Altered sleep time); Behavioral(Convulsions or effect on seizure threshold); Blood(Hemorrhage)  
 Inhalation:Rat LC50 7551 ppm/8H  
 Journal of Occupational Medicine. (Chicago, IL) V.1-9, 1957- 67. For publisher information, see:JJOMDZ 1,634,1959  
 Intraperitoneal:Rat LD50 850 mg/kg  
 Journal of Occupational Medicine. (Chicago, IL) V.1-9, 1957- 67. For publisher information, see:JJOMDZ 1,634,1959  
 Subcutaneous:Rat LD50 3500 mg/kg  
 Toxicometric Parameters of Industrial Toxic Chemicals Under Single Exposure, Izmerov, N.F., et al., Moscow, Centre of International Projects, GKNT, 1982 -,16,1982  
 Intravenous:Rat LD50 1680 mg/kg

Journal of Occupational Medicine. (Chicago, IL) V.1-9, 1957-67. For publisher information, see:JJOMDZ 1,634,1959  
 Parenteral:Rat LD50 1100 mg/kg  
 Toxicometric Parameters of Industrial Toxic Chemicals Under Single Exposure, Izmerov, N.F., et al., Moscow, Centre of International Projects, GKNT, 1982 -,16,1982  
 Oral:Mouse LD50 269 mg/kg  
 Archives of Toxicology. (Springer-Verlag, Heidelberg) Pl. 3, D-1000 Berlin 33, Fed. Rep. Ger.) V.32- 1974- 55,47,1984  
 Liver(Other changes)  
 Inhalation:Mouse LC50 2693 ppm/1H  
 Clinical Toxicology. (New York, NY) V.1-18, 1968-81. For publisher information, see JTCTDW. 18,991,1981  
 Sense Organs and Special Senses(Eye:Corneal damage); Behavioral(Ataxia); Lungs, Thorax, or Respiration(Dyspnea)  
 Intraperitoneal:Mouse LD50 175 mg/kg  
 Toxicology and Applied Pharmacology. (Academic Press, Inc., 1 E. First St., Duluth, MN 55802) V.1- 1959- 59,589,1981  
 Subcutaneous:Mouse LD50 4480 mg/kg  
 Toxicometric Parameters of Industrial Toxic Chemicals Under Single Exposure, Izmerov, N.F., et al., Moscow, Centre of International Projects, GKNT, 1982 -,16,1982  
 Intravenous:Mouse LD50 612 mg/kg  
 Toxicometric Parameters of Industrial Toxic Chemicals Under Single Exposure, Izmerov, N.F., et al., Moscow, Centre of International Projects, GKNT, 1982 -,16,1982  
 Inhalation:Dog LCLo 16000 ppm/4H  
 Journal of Occupational Medicine. (Chicago, IL) V.1-9, 1957-67. For publisher information, see:JJOMDZ 1,634,1959  
 Oral:Cat LD50 200 mg/kg  
 Zentralblatt fuer Arbeitsmedizin und Arbeitsschutz. (Darmstadt, Fed. Rep. Ger.) V.1-25, 1951-75. 19,225,1969  
 Inhalation:Cat LC50 18 gm/m3  
 Toxicometric Parameters of Industrial Toxic Chemicals Under Single Exposure, Izmerov, N.F., et al., Moscow, Centre of International Projects, GKNT, 1982 -,16,1982  
 Oral:Rabbit LD50 50 mg/kg  
 Zentralblatt fuer Arbeitsmedizin und Arbeitsschutz. (Darmstadt, Fed. Rep. Ger.) V.1-25, 1951-75. 19,225,1969  
 Behavioral(Altered sleep time); Behavioral(Convulsions or effect on seizure threshold); Blood(Hemorrhage)  
 Inhalation:Rabbit LC50 2828 ppm/4H  
 Journal of Occupational Medicine. (Chicago, IL) V.1-9, 1957-67. For publisher information, see:JJOMDZ 1,634,1959  
 Skin:Rabbit LD50 >2 gm/kg  
 International Journal of Toxicology. (Taylor & Francis, 47 Runway Rd., Suite g, Levittown, PA 19057) V.16- 1997- 19, 363,2000  
 Subcutaneous:Rabbit LDLo 105 mg/kg  
 Archives Internationales de Pharmacodynamie et de Therapie. (Heymans Institute of Pharmacology, De Pintelaan 185, B-9000 Ghent, Belgium) V.4- 1898- 36,455,1929  
 Oral:Guinea pig LD50 177 mg/kg  
 Journal of Occupational Medicine. (Chicago, IL) V.1-9, 1957-67. For publisher information, see:JJOMDZ 1,634,1959  
 Behavioral(Altered sleep time); Behavioral(Convulsions or effect on seizure threshold); Blood(Hemorrhage)

Repeated Dose Data

Inhalation:Guinea pig LC50 5655 ppm/4H  
Journal of Occupational Medicine. (Chicago, IL) V.1-9, 1957-67. For publisher information, see:JJOMDZ 1,634,1959  
Peripheral Nerve and Sensation(Spastic paralysis with or without sensory change); Lungs, Thorax, or Respiration(Dyspnea)  
Subcutaneous:Frog LDLo 9100 mg/kg  
Archives Internationales de Pharmacodynamie et de Therapie. (Heymans Institute of Pharmacology, De Pintelaan 185, B-9000 Ghent, Belgium) V.4- 1898- 5,161,1899  
Oral:Mammal LD50 1670 mg/kg  
Gigiena i Sanitariya. For English translation, see HYSAAV. (V/O Mezhdunarodnaya Kniga, 113095 Moscow, USSR) V.1-1936- 39(4),86,1974  
Lungs, Thorax, or Respiration(Chronic pulmonary edema); Liver(Other changes); Kidney, Ureter, and Bladder(Changes in tubules)  
Inhalation:Rat TCLo 655 ppm/7H/90D-I  
Journal of Occupational Medicine. (Chicago, IL) V.1-9, 1957-67. For publisher information, see:JJOMDZ 1,634,1959  
Behavioral(Somnolence (general depressed activity)); Behavioral(Ataxia); Death in nutritional and gross metabolic effect  
Inhalation:Rat TCLo 800 ppm/6H/13W-I  
National Technical Information Service. (Springfield, VA 22161) Formerly U.S. Clearinghouse for Scientific & Technical Information. OTS0535664  
Behavioral(Somnolence (general depressed activity)); Lungs, Thorax, or Respiration(Chronic pulmonary edema); Death in nutritional and gross metabolic effect  
Inhalation:Mouse TCLo 800 ppm/6H/13W-I  
National Technical Information Service. (Springfield, VA 22161) Formerly U.S. Clearinghouse for Scientific & Technical Information. OTS0535664  
Nutritional and Gross Metabolic(Weight loss or decreased weight gain)  
Inhalation:Dog TCLo 350 ppm/7H/91D-I  
Journal of Occupational Medicine. (Chicago, IL) V.1-9, 1957-67. For publisher information, see:JJOMDZ 1,634,1959  
Brain and Coverings(Changes in circulation); Lungs, Thorax, or Respiration(Emphysema); Blood(Changes in erythrocyte (RBC) count)  
Inhalation:Monkey TCLo 350 ppm/7H/91D-I  
Journal of Occupational Medicine. (Chicago, IL) V.1-9, 1957-67. For publisher information, see:JJOMDZ 1,634,1959